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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,422	03/09/2001	Michael J. Miller	INARI.042A	4825

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EXAMINER

CHOU, ALBERT T

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

OK

Office Action Summary	Application No.	Applicant(s)	
	09/803,422	MILLER, MICHAEL J.	
	Examiner	Art Unit	
	Albert T. Chou	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on March 9, 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-26 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 8-20 is/are rejected.
- 7) ☒ Claim(s) 5-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the following reasons:
 - Figures 2 and 5, the reference number for System Controller 226 in the Transceiver 202 is inconsistent with the reference number used in the Specification (page 5, line 20, which uses reference number 220).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

- Page 5, lines 8-9, the input data port 219 and output data port 218 should be corrected as 218 and 219 respectively (See Specification, lines 7-8; Figure 2).
- Pages 6 and 10, the reference number for System Controller in the Transceiver 202 should be revised so that the same reference number is used in the drawings (Figures 2 and 5) and the Specification.

Appropriate correction is required.

Claim Objections

Claim 20 objected to because of the following informalities:

- Page 27, line 24, the term "channel transmitter channel" should be consistent with the term "channel transmitter" used in the specification and claims since they refer to the same subject matter.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1-3, 8-11 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Su et al. (US Patent Number: 6,625,161) hereinafter referred to as Su.

5. Regarding claim 1, Su teaches an **Adaptive Network System** (Figure 1; col. 3, lines 30-56; Figure 4; col. 5, lines 39-40; a communication system) that uses **Mapping Unit 133** to provide arbitrary mapping of (Figure 4; col. 6, lines 3-8, 37-48; provides dynamic arbitrary mapping of) **Buffering Unit 135** (Figure 4; col. 5; lines 43-44; col. 6, lines 45-48; multiple transmit buffers) to **Channel Transmitters 15A-15D** (Figure 4, col. 6, lines 35-36; a plurality of channel transmitters), comprising: **Buffering Unit 135** with queues **139A-C** (Figure 4; col. 5; lines 43-44; col. 6, lines 45-48; a plurality of transmit buffers), in which data packet was examined to identify the predetermined common criteria or attribute (Figure 3, Step 21; col. 4, lines 52-54; each of said transmit buffer being active buffer when said unique bit in said active-fragment register is asserted); **Channel Transmitters 15A-15D** (Figure 4; col. 6, lines 35-36; a plurality of channel transmitters) and **Assignment Unit 131** (Figure 4; col. 5, lines 44-56) which assigns each traffic to a specific communication channel (Figure 3, Step 25; col. 5, lines 1-7; each of said channel transmitters corresponding to an active channel when said unique bit in said active-channel register is asserted); and **Mapping Unit 133** (Figure 4; col. 5, line 43; channel-mapping logic) that, using the unique key or keys, creates or updates a look-up table which maps traffic to communication channels (Figure 4; col. 6, lines 3-5; configured to map said transmit buffers to said channel transmitters according to data in said active-fragment register and said active-channel register) and that multiple queues are associated with some of the parallel communication channels and single queues are

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associated with the remaining parallel communication channels (Figure 4; col. 6, lines 37-48; channel mapping logic configured to map to as many active fragments as possible into active channels and to map active buffers to more than one channel once all active buffers have been mapped to at least one channel).

6. Regarding claim 2, Su teaches the number of transmit buffers **139A-C** is the same as the number of channel transmitters **15A-C** (Figure 4; col. 6, lines 37-39).

7. Regarding claim 3, Su teaches that the interconnecting the computing devices and other network components are a series of communication links or channels, such as twisted-pair cables, coaxial cables or fiber optic cables (Col. 1, lines 25-29; one or more said active channels is carried by a power line networking system).

8. Regarding claim 8, Su teaches that the interconnecting the computing devices and other network components are a series of communication links or channels, such as twisted-pair cables, coaxial cables or fiber optic cables (Col. 1, lines 25-29; one or more said active channels is carried by a communication medium).

9. Regarding claim 9, Su teaches that the interconnecting the computing devices and other network components are a series of communication links or channels, such as twisted-pair cables, coaxial cables or fiber optic cables (Col. 1, lines 25-29; communication medium comprise a coaxial cable).

10. Regarding claim 10, Su teaches that the interconnecting the computing devices and other network components are a series of communication links or channels, such as twisted-pair cables, coaxial cables or fiber optic cables (Col. 1, lines 25-29; communication medium comprise a twisted-pair cable).

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11. Regarding claim 11, Su teaches that the interconnecting the computing devices and other network components are a series of communication links or channels, such as twisted-pair cables, coaxial cables or fiber optic cables (Col. 1, lines 25-29; col. 4, line 4-6; communication medium comprise a fiber-optic cable).

12. Regarding claim 18, Su teaches an **Adaptive Network Device 17** (Figure 4; col. 5, line 40; an apparatus) comprising: **Buffering Unit 135** (Figure 4; col. 5; lines 43-44; Means for storing active fragments); **Assignment Unit 131** (Figure 4, col. 5, lines 44-56; means for storing active fragment); **Channel Transmitters 15A-15D** (Figure 4, col. 6, lines 35-36; a plurality of channel transmitters); **Balancing Unit 137** (Figure 4, col. 6, lines 33-36; means for storing active channel flags); and **Mapping Unit 133** (Figure 4; col. 6, lines 3-8; means for mapping said active fragments to said plurality of channel transmitters).

13. Regarding claim 19, Su teaches an **Adaptive Network Device 17** (Figure 4; col. 5, line 40; an apparatus) comprising: **Buffering Unit 135** (Figure 4; col. 5; lines 43-44; Means for storing active fragments); **Assignment Unit 131** (Figure 4, col. 5, lines 44-56; means for storing active fragment); **Channel Transmitters 15A-15D** (Figure 4, col. 6, lines 35-36; a plurality of channel transmitters); **Balancing Unit 137** (Figure 4, col. 6, lines 33-36; means for storing active channel flags); and **Mapping Unit 133** (Figure 4; col. 6, lines 3-8; means for mapping said active fragments to said plurality of channel transmitters according to said active fragment flags and said active channel flags).

14. Regarding claim 20, Su teaches an **Adaptive Network Device 17** (Figure 4; col. 5, line 40; an apparatus) comprising: **Buffering Unit 135** (Figure 4; col. 5; lines 43-44;

Means for storing active fragments); **Assignment Unit 131** (Figure 4, col. 5, lines 44-56; means for storing active fragment); **Channel Transmitters 15A-15D** (Figure 4, col. 6, lines 35-36; a plurality of channel transmitters); **Balancing Unit 137** (Figure 4, col. 6, lines 33-36; means for storing active channel flags); and **Mapping Unit 133** (Figure 4; col. 6, lines 3-8; means for mapping said active fragments to said plurality of channel transmitters according to said active fragment flags and said active channel flags) that multiple queues are associated with some of the parallel communication channels and single queues are associated with the remaining parallel communication channels (Figure 4; col. 6, lines 37-48; as many active fragments as possible are mapped to active transmitters and to map one or more of active fragments to more than one of active channel transmitters once all of active fragments have been mapped to at least one active channel).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 4 and 12-17 are rejected under 35 U.S.C. 103(a) as being obvious by Su et al. (US Patent Number: 6,625,161) hereinafter referred to as Su.

17. Regarding claim 4, Su teaches that the interconnecting the computing devices and other network components are a series of communication links or channels, such

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as twisted-pair cables, coaxial cables or fiber optic cables (Col. 1, lines 25-29; one or more said active channels is carried by a power line networking system). Su does not teach one or more channels are carried by a radio-frequency transmission system. As the radio-frequency transmission system for the internetworking is well known in the art of communication, it would have been obvious for one of ordinary skill in the art at the time of invention was made to be motivated to modify Su's communication channels of twisted-pair cables, coaxial cables or fiber optic cables by a radio-frequency transmission system in order to increase the component's or system's mobility or to be more suitable for those areas where the wired lines are either unavailable or too difficult to obtain.

18. Regarding claims 12-15, Su teaches in one embodiment that the fiber optical cables of OC-3 level are used for the parallel communication channels (Col. 4, lines 1-6). Su does not teach data are modulated onto the active channel using either differential Binary Phase Shift Keying, or differential Quadrature Phase Shift Keying, or Quadrature Amplitude Modulation or Frequency Shift Keying. As the radio-frequency transmission system for the internetworking and the data modulation technique using either differential Binary Phase Shift Keying, or differential Quadrature Phase Shift Keying, or Quadrature Amplitude Modulation or Frequency Shift Keying are well known and widely used in the internetworking and the signal modulation, it would have been obvious for one of ordinary skill in the art at the time of invention was made to be motivated to modify Su's wired lines by a radio-frequency transmission system using the data modulation techniques in order to increase the component's or system's mobility or

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to be more suitable for those areas where the wired lines are either unavailable or too difficult to obtain.

19. Regarding claims 16-17, Su teaches in one embodiment that the fiber optical cables of OC-3 level are used for the parallel communication channels (Col. 4, lines 1-6). Su does not teach that an active channel is frequency-division multiplexed or orthogonal frequency-division multiplexed with respect to a second active channel. As frequency-division multiplexed or orthogonal frequency-division multiplexed technique is well known in the art of signal multiplexing, it would have been obvious for one of ordinary skill in the art at the time of invention was made to be motivated to modify Su's wired lines by a radio-frequency transmission system using the frequency-division multiplexed or orthogonal frequency-division multiplexed technique for the active channels.

Allowable Subject Matter

20. Claims 5-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

21. Claims 21-26 are allowed.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert T. Chou whose telephone number is 571-272-6045. The examiner can normally be reached on 8:30 - 17:00.

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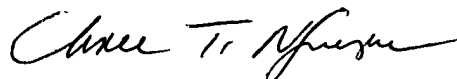
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AC

Albert T. Chou

February 3, 2005



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